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The Tech

Established 1881

Volume 133, Number 36

Tuesday, September 10, 2013

WEATHER, p. 3

TUE: 81°F | 59°F
Mostly cloudy

WED: 92°F | 71°F
Sunny

THU: 83°F | 63°F
Mostly cloudy

JOSEPH MAURER—THE TECH

A model of Freddie Mercury, frontman of the British rock band Queen, sits atop Kresge Auditorium in his famous yellow jacket in honor of his birthday, Sept. 5. The lead vocalist and pianist wrote many popular hits for Queen, including "Bohemian Rhapsody," "Killer Queen," and "We Are the Champions." Mercury died on Nov. 24, 1991, due to bronchopneumonia brought on by AIDS.

300 Mass. Ave. construction projects causing complaints

Random Hall addresses construction near the dorm

By Omar Ibarra

Random Hall residents will be getting some noisy neighbors later this month as construction begins at 300 Massachusetts Avenue, right next to the dormitory.

The external wall of Random that faces away from campus will be only five inches away from the new Millennium Pharmaceuticals biotechnology building.

Construction is set to begin later this month under contractor Forest City Enterprises, which obtained permits from Cambridge to change the zoning requirements of the area. Millennium's 250,000 square foot building will be 95 feet tall — four stories higher than Random — with mechanical equipment on the roof reaching a height of 129 feet. MITIMCo is also managing the project.

The Tech received a transcript of a meeting of Random residents and Henry Humphreys, Dean of Resdential Life and Dining, Richard Amster, Director of Facilities andCampus Planning, Engineering & Construction, and Gary Tondorf-Dick, Program Manager of Capital Projects.

Several participants in the meeting mentioned an incident in which a piece of construction equipment was operating directly outside a resident's bedroom window. Amster assured residents that he would work with the contractor to address any future resident complaints and had already discussed the previous incident with them.

The officials at the meeting informed Random residents of current plans for the construction. By the middle of this month, fencing and barriers will be put up around the construction zone. Amster also reported that demolition of the existing building is expected to begin at the end of September and last through the end of October. The foundation is set to be finished around January, while walls are set to be up by 2014 and the project finished by the end of 2015.

According to Amster, the construction process should not disturb Random residents. The hours of work are projected to be 7 a.m. – 3 p.m. He also said that the contractor would be informed of campus events such as CPW, REX, and finals week so as to minimize the impact of the construction at those times.

Humphreys said that most or all of the work will occur on the side of Random without windows, and workers will not be allowed to enter Random unless authorized. Amster did not expect environmental factors to be a concern, although he did admit that activities like jackhammering might be noticeable.

Random Hall residents at the meeting brought up concerns ranging from dust to pest control. Amster and Tondorf-Dick reiterated that they would be the primary liaisons for communicating with the contractors and MITIMCo and urged residents to email them with any complaints.

There are various sentiments among students in Random Hall, from communal concerns to apathy toward the situation. Jerome File '17 remains apathetic to it, saying "I'm used to it, I lived in the city, it's just like another day to me." Others felt similarly, as several residents said they didn't have a strong opinion or didn't really know what was going on when asked for their reactions. Those who were concerned mostly worried that the project would disturb their privacy and provide unsavory conditions to live in. Ac-

Random, Page 11

Admissions releases profile of Class of 2017

What makes the Class of 2017 unique is "their talent, energy, creativity, optimism, diversity, and passion," wrote Dean of Admissions Stu Schmill '86 in an email to *The Tech*. Last week, the Office of Admissions released a more detailed profile of the 1,116 members of the new freshman class.

This admissions cycle saw 18,989 hopefuls, 880 more than last year, apply to MIT, and 1,548 receive admission. The acceptance rate was 8.2 percent, MIT's lowest-ever and down from 8.9 percent the previous cycle. The success rate was even lower for international students, with only 115 of 4,363 foreign applicants being offered acceptance. While 531 more students applied through early action than last year, 30 fewer people were accepted ear-

2017, Page 12

MELISSA RENÉE SCHUMACHER—THE TECH

Rohun Kulkarni '15 and Priya Garg '15 play life-sized Connect Four in front of W20 on Monday in front of the Student Center. The game was constructed by Clowns@MIT.

IN SHORT

The deadline to waive the MIT Student Extended Health Plan is Sept. 15.

The Go Global Fair, which features international opportunities through MIT and external providers, will be 5–7 p.m. today. The fair will be on the Kresge Lawn assuming appropriate weather conditions, and in the Bush Room otherwise (10-105).

The annual Student Loan Art Program Exhibition is open daily 12–6 p.m. until Sept. 15. MIT undergraduate and graduate students can enter a lottery to borrow a framed artwork for free!

ESP Splash Teacher Registration is now open at *http://esp.mit.edu/teach/Splash/index.html*. Register by Sept. 28!

Professor Michael B. Yaffe will be part Anna's Taqueria's Celebrity Burrito Roller Series on Sept. 16. Each Yaffe-rolled burrito will be $10, with all proceeds going to the Koch Institute.

Send news information and tips to *news@tech.mit.edu*.

New dorm security policies reflect 2012 report

Five undergraduate residences (Baker House, Maseeh Hall, McCormick Hall, Next House, Simmons Hall) and two graduate residences (Tang Hall and Westgate Apartments) received enhanced security systems, video monitoring, and access systems this summer.

The main entrances of the five undergraduate residence halls are now locked from 9 p.m. to 8 a.m. All residents, including all individuals in a group, must to tap their ID on the card reader in order to enter and will be facially identified by security guards. Some doors have been converted to exit-only access.

Under the discretion of the dorm security pilot program, guests need to sign in and be escorted by their hosts throughout their time in the residence. McCormick, Next, and Simmons allow residents to place up to ten, three, and ten MIT students on their guest lists, respectively. Guest list visitors may enter without an escort between 7:30 a.m. and 12:30 a.m. daily, whereas other visitors have to meet their host at the front desk before entering.

These security upgrades resulted from the recommendations of the Residential Hall Security Review Committee.

The committee was formed in December 2011 by Dean for Student Life Chris Colombo and was composed

Security, Page 14

WE WANT YOU TO JOIN *THE TECH*!

Stop by our office in W20-483 Sundays at 6 p.m. to learn about the opportunities we offer!

ON THE PLEDGE OF ALLEGIANCE

"Under God": Does it infringe on freedom of religious expression? **OPINION, p. 4**

MIT AND FOSSIL FUELS

As a leader, MIT must divest from fossil fuel producers. **OPINION, p. 5**

TELL US HOW YOU REALLY FEEL … ABOUT COURSE 5.

The Tim on chemists and chemistry at the Institute. **FUN, p. 6**

BACK PAIN, BACK PAIN, GO AWAY

Get — or make! — a standing desk to alleviate your back pain. **CAMPUS LIFE, p. 15**

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World & Nation

Bomb kills 2 outside school in China

BEIJING — A homemade bomb outside a school in the southern city of Guilin on Monday killed at least two people and injured 17, many of them children, according to state news reports.

The two who died in the explosion were a man and a woman, according to the microblog of China Central Television, the main state television network. Of the injured, 10 were children who attended the school, which housed both elementary and secondary grades.

The man who died appeared to have been the bomber, the official news reports said. The bomb was in a three-wheel bicycle, which might have been electric or gas powered.

A photograph taken at the scene and posted online showed two people sitting in the street, their clothes mostly shredded and patches of skin missing from their bodies. A motorbike nearby was on fire, and metal and glass lay scattered across the street. Accounts posted on microblogs said the blast shattered windows as high as the seventh floor on nearby buildings.

Liu Yuping, deputy director of a local hospital, told China News Service that a 10-year-old boy's leg had been severed by the blast.

The explosion, which occurred at 7:10 a.m., was certain to raise further questions among parents about security at schools. In 2010, a series of seemingly unrelated school attacks, some fatal, by people armed with knives and other household objects shocked parents across China.

—Edward Wong, The New York Times

Rebellion paralyzes southern Philippine city; at least eight dead

MANILA — Fighting between government forces and rebels who were left out of a recent peace agreement paralyzed a city of 800,000 in the southern Philippines on Monday, killing at least eight people and wounding dozens more.

By late Monday, government troops had secured major government buildings in Zamboanga City, but several parts of the city were still occupied by about 300 armed rebels holding at least 20 hostages, a military spokesman said. Flights to the area were canceled.

The reported deaths included two rebel fighters, a Philippine navy sailor, a police officer, and four civilians.

The fighting started early Monday when several hundred armed members of the Moro National Liberation Front tried to enter the city by boat and were intercepted by the Philippine navy, said Lt. Col. Ramon Zagala, a military spokesman. The rebels, dressed in military uniforms, tried to march to the city hall to raise their group's flag and declare independence from the national government, Zagala said.

—Floyd Whaley, The New York Times

Kerry's comments on Syria mark a shift over strike

By David E. Sanger
THE NEW YORK TIMES

WASHINGTON — When Secretary of State John Kerry dangled for the first time on Monday actions that President Bashar Assad of Syria could take to avoid a military strike, it seemed an acknowledgment that Congress, America's allies, and the Russians were all looking for an off-ramp for what a week ago seemed like inevitably military action against Syria.

The concept has taken on many permutations in the past five days, but its essence is this: force Assad to turn his huge stockpile of chemical weapons over to some kind of international control and to recognize the international ban on chemical weapons. The appeal of the idea is that, if successful, it could create a far more lasting solution than a brief strike on Syria's chemical weapons infrastructure, especially a strike that Kerry characterized Monday morning as "unbelievably small."

Experts on chemical weapons and the Syrian government said that it would be next to impossible to know with certainty where all of Assad's sprawling, constantly moving arsenal is residing, much less who is controlling it. And flying it out of the country is not as simple as picking up nuclear components — as the United States did in Libya in late 2003 — and moving them to a well-guarded site in Tennessee.

Though Kerry also expressed skepticism that the Syrians would take up the idea, his comments were notable because, as recently as the middle of last week, he was not talking about any diplomatic initiatives to secure the stockpile. A proposal by Sens. Joe Manchin of West Virginia and Heidi Heitkamp of North Dakota, both junior members of the Democratic caucus, to give Assad 45 days to sign on to the Chemical Weapons Convention and begin to turn over his weapons has yet to catch Kerry's attention.

Pakistan takes step toward talks with the Taliban

By Salman Masood and Declan Walsh
THE NEW YORK TIMES

ISLAMABAD — A conference of Pakistan's political and military leadership on Monday agreed to clear the way for peace talks with the Pakistani Taliban, calling it the best strategy to end a decade of militant-driven bloodshed.

The closed-door meeting was attended by representatives of all the major political parties, the army chief, Gen. Ashfaq Parvez Kayani, and the head of the Inter-Services Intelligence Directorate, the country's main spy agency, Lt. Gen. Zaheer ul-Islam.

In a statement afterward, the participants announced that they had given Prime Minister Nawaz Sharif's government permission to start a peace dialogue by identifying Taliban representatives who might participate in talks. Sharif, who has previously faced accusations of pandering to militants, made dialogue with the Taliban a cornerstone of his campaign in the May general election.

"It is a good day for Pakistan," said Mir Hasil Khan Bizenjo, a senator from western Baluchistan province, during a television talk show hours later. "Today, the political parties have given the government a mandate for peace."

But while the six-hour conference Monday cemented the political consensus for talks, it offered little detail on how such talks might work in practice — or, indeed, what issues the government might be willing to negotiate.

The process also threatens to further cloud Pakistan's complicated relationship with Islamist militants: even as the military has fought the Pakistani Taliban, it has long been accused of fostering other terrorist groups at work against Indian, Afghan, and American interests, among others.

McKinsey&Company

Business Analyst Presentation
Thursday, September 12 at 6:30 PM
Sala de Puerto Rico, Stratton Student Center

Coffee Chats
Friday, September 13 at 10:00 AM
Area Four

McKinsey Speaker Series: The evolving energy sector: How you can plug in!
September 16 7:30 - 9:00 PM
Maclaurin Buildings (4), Room 4-231

Operations Teardown Event
September 19 4:00 - 6:00 PM

www.mckinsey.com/careers

India sends security forces to north after deadly clashes

By Ellen Barry and Hari Kumar
THE NEW YORK TIMES

NEW DELHI — India deployed thousands of police officers and army troops to a region in the north of the country on Monday after weekend confrontations between Hindus and Muslims caused the death of at least 30 people and grave injuries of many more, according to the police.

Widespread clashes were set off by the killing of two Hindu youths on Aug. 27 near the city of Muzaffarnagar, about 80 miles north of New Delhi, in the state of Uttar Pradesh.

With a pivotal parliamentary election approaching, political combatants immediately started pointing fingers of blame at one another. Among the scores of people who have been charged in connection with the events are state legislators from the Bharatiya Janata Party, a Hindu nationalist party that hopes to win back the parliamentary majority next spring.

Officials say the explosion of violence was fed by a video clip that circulated on the Internet and through social media last week, purportedly showing the lynching of the two young men.

The clip was "very provocative and spread like wildfire," but was not authentic, having been shot several years ago on the border with Afghanistan, Kaushal Raj Sharma, a top official from Muzaffarnagar, said in an interview.

About 5,000 farmers gathered on Saturday to demand action against the killings, and when the police ordered them to disperse and return to their homes, they "indulged in violence," killing 13 people, Sharma commented.

Over the next two days, groups began fighting with knives, sticks, bricks, stones, swords and iron rods, quickly spreading to nearby villages. As of Monday afternoon, just over half of the people killed were Muslims, Sharma said.

Dozens of Muslim families were seen leaving the area Sunday night, their possessions piled onto carts drawn by horses and bullocks. Refugees spoke of roving groups of armed men who would attack whole families, including children.

The police have arrested 160 people, Sharma stated. Thousands of security forces have been deployed in the area, including about 2,500 riot police officers and roughly 800 soldiers.

European rail crashes hint at gaps in increasingly precarious system

By Doreen Carvajal
THE NEW YORK TIMES

PARIS — In the wake of a fiery train crash this summer in northern Spain that killed 79 people, investigators, survivors and passengers are demanding to know why the rail line entrusted the train's safety with a sole driver who had publicly boasted about past speeding and was talking on a mobile phone seconds before the derailment.

But even as the crash, near Santiago de Compostela on July 24, has focused attention on potential management lapses in the Spanish rail network, it was just one in a recent spate of deadly accidents involving passenger and freight trains — in Belgium, France, Spain and Switzerland — that have raised troubling questions about a European rail network that has been the envy of much of the world.

Over the past 12 years, the European Union has pushed to transform national rail systems into a single market, as a critical element of the Continent's economic and political integration. However, the crashes have revealed many of the same lapses in oversight that have bedeviled other efforts at cohesion, including monetary union and common food safety policies.

Starting next year, the EU plans to spend $30 billion in 28 countries on transportation, much of it on rail modernization, to integrate about 20 interconnected national rail networks. Yet, even after years of such investment, member states have struggled to instate a sophisticated, unified system as state-owned monopolies gave way to private, competing train operators.

The result is a sometimes-confused patchwork of old and new systems, where high-speed 21st-century trains often run on 19th-century rails made for slower trains and less traffic. The most advanced automatic braking systems are frequently absent at important junctures, while more responsibility for safety falls on drivers who have been left alone in the cab due to budget cuts that reduce the number of train employees.

While each of the recent crashes in Europe had its own circumstances, these factors were shared, according to different countries' trade unions, which contend that the accidents reveal not so much the failings of any one driver than those of an increasingly precarious system.

"This is a system that is more vulnerable from our point of view; it's totally in transition, changing from an old system to a new system," said Sabine Trier, the deputy general secretary of the European Transport Workers' Federation. "A series of accidents in such a short period of time and in countries that normally have sophisticated systems raises a lot of questions."

She added: "In the 10 years to create a single, competitive market, we've seen old state-owned companies strive to become more productive. What we have experienced over a long period is a reduction of personnel to increase productivity."

Train officials and some rail experts, however, say the technology and staffing in place is sufficient, pointing to a safety record that has significantly reduced passenger deaths since the 1980s. For them, the series of recent accidents is a regrettable coincidence.

The pope's on the line, and everyone's talking

ROME — Pope Francis already has distinguished himself from his predecessor with a more down-to-earth style. Now, he is both unnerving the Vatican and delighting the faithful by picking up the telephone and spontaneously calling people, earning the nickname "the Cold Call Pope."

Earlier this month, he called to comfort a pregnant Italian woman whose married boyfriend had unsuccessfully pressured her to have an abortion.

The woman, who is divorced and will be a single mother, wrote to the pope, fearing she had fallen afoul of the church. Pope Francis offered to personally baptize the baby when it is born next year, according to an account in La Stampa, a Turin-based daily.

In August, Francis phoned a woman in Argentina who had been raped by a local police officer. The pope told her that she was not alone and that she should have faith in the justice system, according to an Argentine television news report rebroadcast in Italy.

While the papal phoning has been widely greeted with delight, it is also proving somewhat perilous, with unsubstantiated news reports of calls supposedly made by Francis — including one last week to President Bashar Assad of Syria, and another to a young distraught French gay man. The Vatican denied that the pope had made those calls.

Other Vatican analysts fear that the advent of papal phone calls could spawn disillusion among those not blessed by a call.

"There's an innumerable number of people who have suffered violence or injustice who might write to the pope for a word of comfort, and it's clear that he can't answer all of them," said Alberto Melloni, a Vatican historian and the director of the John XXIII Foundation for Religious Studies in Bologna, a liberal Catholic research institute.

"They could think, 'See, I'm feeling awful and the pope didn't even call,'" said Melloni.

—Elisabetta Povoledo and Dan Bilefsky, The New York Times

Diabetes epidemic grows in China

China has the world's biggest diabetes epidemic, and it continues to get worse, according to the latest study of the disease's devastating effects on the world's most populous country, which has risen from poverty to become an economic superpower in the last 30 years.

Previous studies had found rapidly rising rates of the disease, and the newest, published last week by The Journal of the American Medical Association, shows that China has just passed the United States: 11.6 percent of Chinese adults have the disease, compared with 11.3 percent here; in 1980, prevalence was below 1 percent.

The total — 114 million people — means China has about a third of the world's diabetes sufferers, who are at greater risk of heart disease, stroke, and kidney failure.

That will put enormous strain on the country's public health system, the authors said.

Perhaps even more alarming, the study, which involved testing almost 99,000 people, found that half had "prediabetic" blood glucose levels.

For unknown reasons, weight gain leads to Type 2 diabetes in Asians at even lower body mass indexes than it does in whites or blacks. The average body mass index in the study was 23.7, which is considered normal.

But obesity is increasing rapidly in China. Experts have blamed many factors: the introduction of high-calorie, Western diets and fast food, more travel by car, sedentary factory jobs replacing farm labor, and families who spoil the one child that most are allowed to have.

—Donald G. McNeil Jr., The New York Times

WEATHER

Summer temperatures making a comeback

By Casey Hilgenbrink

Many of us threw on our jackets yesterday morning before heading to campus as a high pressure system brought cooler weather to the area. Last night, that high pressure moved offshore, allowing a warm front to work into the region today.

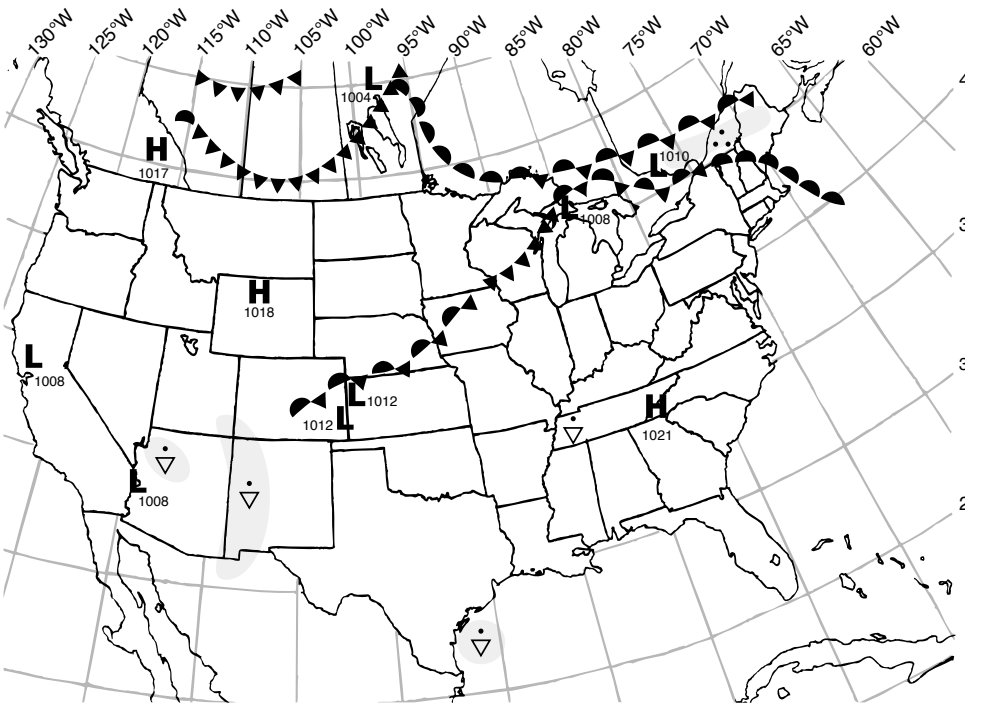
Unseasonably warm and humid air will follow this warm front, giving us one last taste of summer through midweek — look out for high temperatures in the low 90s°F tomorrow!

At the end of the week, a strong cold front will approach, bringing with it the possibility of thunderstorms and cooling us down again to daily highs around 70°F.

In other news, it is possible that the Atlantic may see its first hurricane of the season by midweek. Yesterday evening, Tropical Storm Humberto was situated south of the Cape Verde Islands, with maximum sustained winds around 45 mph. The National Hurricane Center expects Humberto to strengthen, possibly becoming the first hurricane of the season by Wednesday. Regardless, Humberto is expected to turn north and pose no threat to the U.S.

Extended Forecast

Today: Mostly cloudy with a high of 81°F (27°C). Winds from the southwest at 10–15 mph.
Tonight: Mostly cloudy with a low of 59°F (15°C). Southwesterly winds decreasing to around 10 mph.
Tomorrow: Sunny and hot, with a high around 92°F (33°C). Southwesterly winds at 10 mph.
Thursday: Mostly cloudy, with a high in the mid 80s°F (mid 20s°C). Showers and thunderstorms likely overnight.
Friday: Cooler and mostly sunny, with a high in the low 70s°F (around 20°C).



Situation for Noon Eastern Time, Tuesday, September 10, 2013

Weather Systems	Weather Fronts	Precipitation Symbols			Other Symbols
H High Pressure	Trough		Snow	Rain	Fog
L Low Pressure	Warm Front	Showers	✻ ▽	• ▽	Thunderstorm
§ Hurricane	Cold Front	Light	✻	•	Haze
	Stationary Front	Moderate	✻✻	••	Compiled by MIT Meteorology Staff and *The Tech*
		Heavy	⁂	∴	

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Under God

The Pledge of Allegiance infringes on freedom of religious expression

By Aaron Hammond

From our first day of kindergarten in the United States, we are expected to recite daily those 31 words which solemnly declare our fidelity to the nation we call home: "I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all."

> **The Pledge exists to the ability to affirm their dignity as citizens. It effectively disallows atheists from making the Pledge and thus deprives them of this right.**

The Pledge was a welcomed constant in the seemingly capricious changes in the school day as I progressed through the education system. Even today, I feel a certain affinity for the Pledge, although it seems the frequency with which I recite it appears to have diminished considerably after leaving high school. Two words of the Pledge, however, have drawn the ire of modern commentators: "under God."

The Pledge has existed in some form since the late 19th century. It was not until 1942 that Congress officially recognized the Pledge as:

"I pledge allegiance to the flag of the United States of America, and to the Republic for which it stands, one Nation indivisible, with liberty and justice for all."

The observant reader will note that the controversial phrase is absent from this version. That is because "under God" is a relatively recent addition to the Pledge. It was not until George Docherty, a minister at the New Your Avenue Presbyterian Church, made the suggestion in a sermon delivered to President Eisenhower, claiming that the "characteristic and definitive factor in the American way of life" was a monotheistic religiosity, manifested in a special, spiritually-branded belief in American exceptionalism. To some extent, Docherty was correct: at the height of the Second Red Scare, it was religion, not capitalism, which fundamentally separated the United States from the communist nations in the minds of many Americans. Eager perhaps to prove his fidelity to his newly adopted brand of Protestantism, Eisenhower took Docherty's suggestion to heart, and "under God" was accepted into the Pledge on June 14, 1954.

In the half-century since the modification of the Pledge of Allegiance, several legal challenges have been brought against the phrase, with varying degrees of success. In 2010, however, the United States Court of Appeals for both the First and Ninth Circuits rendered decisions that reaffirmed the phrase's place in the Pledge, noting that "under God" served only ceremonial purposes and did not constitute a state endorsement of monotheism, as the Pledge is voluntary.

Because of a recent challenge in the Supreme Judicial Court of Massachusetts, however, "under God" is under fire again. The case differs from others like it in that, rather than attack the phrase on the basis of governmental endorsement of monotheism, explicitly prohibited by the First Amendment, the plaintiff claims that the Pledge violates the quite extensive Equal Rights Amendment to the Massachusetts State Constitution. By providing an unpleasant alternative to the pledge, the so-called opt-out, the claimants argue that non-monotheists are not afforded equal protection under the law.

Per chapter 71, section 69 of the Massachusetts General Laws, "[e]ach teacher at the commencement of the first class of each day in all grades in all public schools shall lead the class in a group recitation of the 'Pledge of Allegiance to the Flag.'" At the time of writing, the Constitution of the Commonwealth of Massachusetts holds that "[e]quality under the law shall not be denied or abridged because of sex, race, color, creed or national origin." At cursory glance, the optional Pledge enshrined in law appears to comply fully with this principle. The claimants in the new case against the Pledge hold, however, that there exists only the illusion of choice, as the alternative yields ostracism. While I think that such an argument can be made, I believe that a more powerful argument lies in the very purpose of the Pledge.

> **The Pledge, in its current form, forces students to either accept a Pledge affirming that the nation exists under a single God or make no such affirmation.**

Why are students led in the Pledge of Allegiance? The frequent response is that the Pledge inculcates the youth of America with an appreciation for their country. At a more fundamental level, however, the Pledge exists to give students the ability to affirm their dignity as citizens. In publicly reciting the Pledge, students are allowed to accept the rights and responsibilities that American citizenship confers. In order to avoid the intricacies of religion entirely, I shall now focus upon students with no religious beliefs.

It is true that the Massachusetts State Constitution does not explicitly protect the rights of those without a creed. It's a game of semantics to argue against this point, but I shall play devil's advocate. The precedent exists, however, that the enumeration of protected characteristics in the commonwealth's Constitution does not serve as an exhaustive list of so-called suspect classifications in the eyes of the law. Instead, the most recent criterion applied in the Supreme Judicial Court of Massachusetts in the identification of a suspect group is whether members constitute a "discrete and insular minority." The application of such a standard against atheists is not without nuance; however, I believe the sociocultural identification of atheists as an interest group in modern society is compelling evidence that such a classification can be made.

If it is accepted that atheists constitute a discrete and insular minority and are therefore a suspect group under the law, then contemporary American jurisprudence holds that any law applying to atheists must pass strict scrutiny; that is, it must serve a compelling governmental interest, it must be narrowly tailored to furthering that interest, and it must make use of the least restrictive means to that end. Because the law affects all students enrolled in public schools in Massachusetts, and because some atheists are of school-age, it applies to atheists. The government of the state certainly has a compelling interest in the inculcation of students with a healthy dose of patriotism. The Pledge, in its current form, is not narrowly tailored to furthering that interest; it forces students to either accept a Pledge affirming that the nation exists under a single God or make no such affirmation. It effectively disallows atheists from making the Pledge and thus deprives them of their ability to make a solemn and public recognition of their dignity as citizens. It fails strict scrutiny.

The argument is trickier if atheists are not recognized as a suspect group; however, strict scrutiny should still be applied. The Pledge in its current form prevents some students from making a conscious and public declaration of their allegiance to the nation, and I posit that the ability to make such a statement is a fundamental right of American citizens. The current legal precedent regarding laws that infringe a fundamental constitutional right is that they must pass strict scrutiny, and, as detailed above, the law does not pass muster.

What should happen to the Pledge of Allegiance? It existed for decades without the assertion that America exists "under God." When considering additionally that monotheism is no longer a unifying characteristic of the United States and that a plurality of systems of belief and non-belief have been fully incorporated into the spiritual culture of our nation, the phrase no longer has a place in any declaration of temporal allegiance. We are a nation of many gods and no gods, and every citizen should be able to affirm publicly her dignity as an American, regardless of her religious predilections. We are a nation indivisible, with liberty and justice for all.

Aaron Hammond is a member of the class of 2017.

CORRECTIONS

An article in Friday's issue on arts opportunities using the MIT ID mistakenly indicated that the $5 BSO College Card could be purchased at the BSO Ticket Office and MIT CopyTech in 11-003. It can only be purchased at CopyTech.

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Chairman Sarah Ritter, Editor in Chief Anne Cai, Managing Editor Ian M. Gorodisher, Executive Editor Deborah Chen, and Opinion Editor Jacob London.

Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

Letters to the editor, **columns**, and **editorial cartoons** are written by individuals and represent the opinion of the author, not necessarily that of the newspaper. Electronic submissions are encouraged and should be sent to *letters@tech.mit.edu*. Hard copy submissions should be addressed to *The Tech*, P.O. Box 397029, Cambridge, Mass. 02139-7029, or sent by interdepartmental mail to Room W20-483. All submissions are due by 4:30 p.m. two days before the date of publication.

Letters, columns, and cartoons must bear the authors' signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or condense letters; shorter letters will be given higher priority. Once submitted, all letters become property of *The Tech*, and will not be returned. Letters, columns, and cartoons may also be posted on *The Tech*'s Web site and/or printed or published in any other format or medium now known or later that becomes known. *The Tech* makes no commitment to publish all the letters received.

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When a leader should follow

MIT needs to divest from fossil fuel producers

By Britta Voss

At MIT, we pride ourselves on our various environmental and energy initiatives, from campus design to course offerings to groundbreaking research in numerous fields. Our greatest strength as an institution is our position as a world leader in science and technology. In the past, research from MIT has led to advances in green technologies, such as the development of ultracapacitors and novel liquid batteries for energy storage. Our values, as expressed in our research targets, have produced great strides in our society's transition to more sustainable behaviors.

We must ask ourselves: Is our institution taking the most effective strategies in combating the forces leading us down the path of environmental ruin? The answer is, unfortunately, no.

While our capacity in this arena continues to grow, forces outside the academic and research sphere are increasingly undermining these efforts. The tremendous lobbying power of fossil fuel companies, thanks to their immense wealth, has effectively blocked our political leaders from taking the necessary action to curb the excesses of an industry that is threatening our planet's health. As students, the threat of climate extremes looms large in our own lives, as the consequences of global warming are already apparent. Look no further than the increasingly intense heat waves that have ravaged parts of the United States for the past few summers.

In light of these circumstances, we must ask ourselves: Is our institution taking the most effective strategies in combating the forces leading us down the path of environmental ruin? The answer is, unfortunately, no. Instead, our leaders are advocating more of yesterday's business-as-usual policies rather than bold actions and ground-breaking solutions.

MIT has many commendable accomplishments in climate and sustainability issues. Faculty all over MIT campus carry out cutting-edge research on energy efficiency, atmospheric dynamics, the economics of carbon emissions, and countless other aspects of global warming. Since 1991, the Joint Program on the Science and Policy of Global Change has trained young scientists to work with policymakers and to communicate science to the public. Under president Susan Hockfield in 2010, MIT joined the Global University Leader's Forum Sustainable Campus Charter. Meanwhile, ExxonMobil, BP, Chevron, and their ilk still profit from billions of dollars of government subsidies to support continued exploration of fossil fuel reserves. International emissions negotiations like the Kyoto Protocol and Copenhagen Accord have achieved almost no progress in slowing the rise in atmospheric carbon dioxide.

In order to bring MIT's clear commitment to climate and sustainability to bear on our stymied political and economic system, we must take a stand against the industries which render our innovations impotent. Accepting the status quo is not the approach upon which MIT built its world-class reputation. Our student generation cannot afford for it to continue. One important first step towards this objective is to divest our own endowment from fossil fuel companies, thus rescinding our support for their destructive business model.

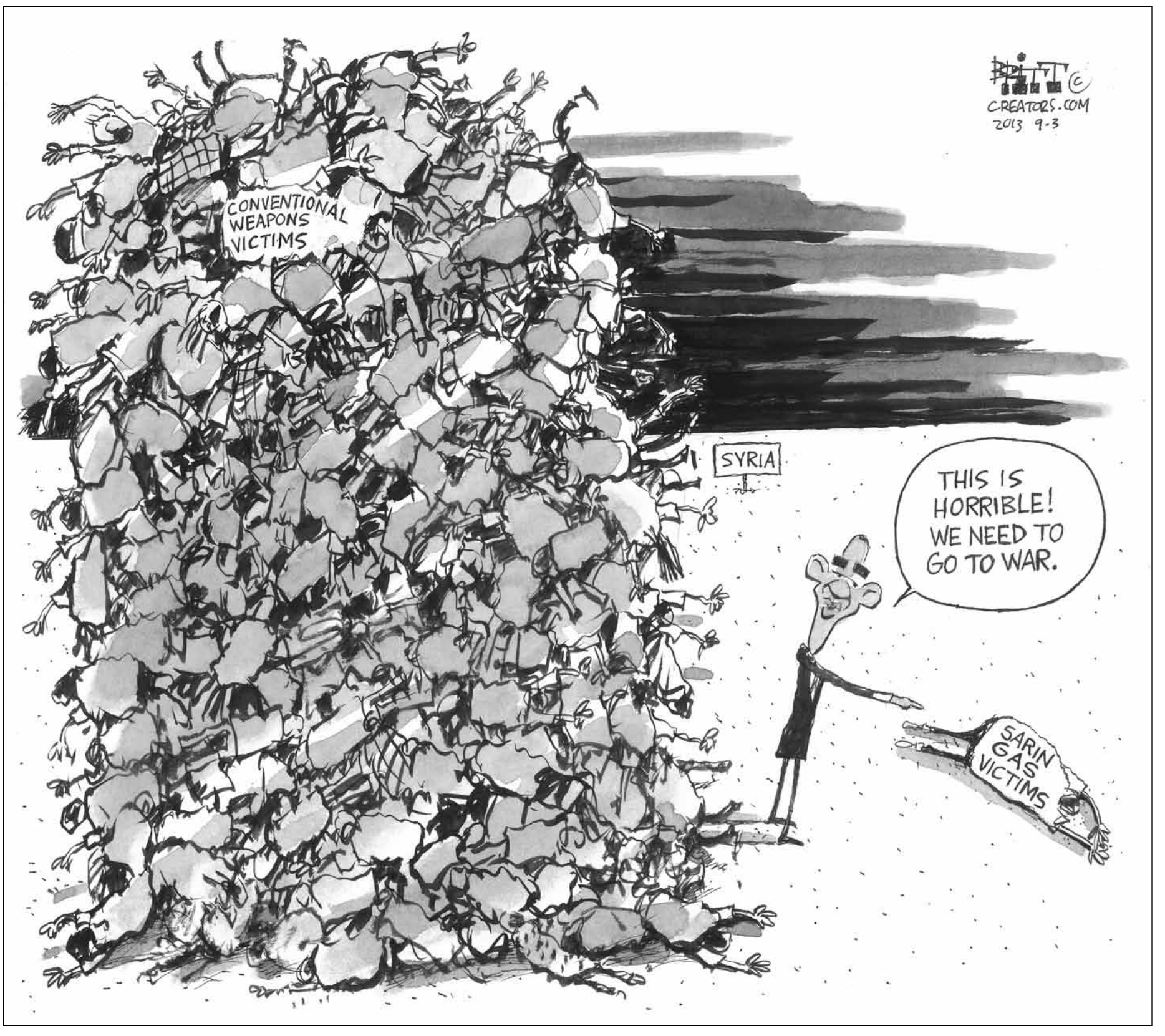
A brief visit down memory lane shows that this would not be MIT's first active response to urgent social issues. In 2007, our administrators admirably heeded the call of human rights advocates around the world to divest from companies profiting from the genocide in Darfur. They were likely in part motivated by the slow response of the Institute to the human rights crisis in South Africa under apartheid in the 1980s. After years of campaigning from students, the administration refused to follow the lead of over 150 universities across the U.S. to divest from companies supporting the apartheid regime. However, even in the case of Darfur, which was so clearly a situation "abhorrent to MIT," we decided to divest long after many other universities committed to the cause. Rather than choosing to lead the world to the obvious choice of renouncing the genocide, we chose to wait cautiously. Harvard was the first university to divest, a full two years before MIT. Campaigns to divest university endowments from fossil fuel companies have taken off across the country in the past year. Student groups at Harvard, Brown, and Stanford, for example, have already made their case before trustee meetings or committees on investment responsibility. Will MIT stand by again while our colleagues and competitors demonstrate their understanding of the gravity of climate change?

Some may argue that as an institution of science and engineering research, it is not our purpose or obligation to stake a claim on issues beyond their technical aspects. However, as an academic institution with a stated mission to "advance knowledge ... that will best serve the nation and the world in the 21st century ... [and] bring this knowledge to bear on the world's great challenges," it is in fact our duty to recognize the broader implications of the work we do and its global political, economic, and social context. For instance, what is the use of designing a highly efficient electric engine, which could significantly reduce carbon emissions from motor vehicles, if corporate lobbyists prevent such technology from ever being economically viable outside the lab? Certainly, research developments inspire further technological advances which can have unanticipated benefits beyond the immediate needs of society. But the political power of the fossil fuel industry poses a major obstacle to the realization of the maximum outcomes of the fruits of MIT research.

The political power of the fossil fuel industry poses a major obstacle to the realization of maximum outcomes of the fruits of MIT research.

MIT needs to put its money where its mouth is and take a stand on the urgent issue of climate change. To do otherwise is to pretend that a few more patents on solar cells and biofuels and a fully optimized campus recycling program will adequately address this problem. While we certainly need to continue such programs, they are not enough on their own. We need to join together with other innovation leaders around the world to prevent the fossil fuel industry from hindering our progress towards a sustainable future.

Britta Voss is a graduate student in the Department of Earth, Atmospheric, and Planetary Sciences



OPINIONOPINIONOPINIONO

Fun FUNFUNFUNF

Q.E.D. (QUITE EASILY DONE) BY ERIKA TRENT
ORIENTATION...
NICE TO MEET YOU!
WHAT'S YOUR NAME?
WHERE ARE YOU FROM?
AND YOUR NAME IS?
HI! MY NAME IS...
WHAT'S YOUR NAME?
WHAT ARE YOU MAJORING IN?
REMIND ME YOUR NAME?
.....
I DON'T REMEMBER THE NAME OF A SINGLE PERSON IN THIS ROOM.
THE FIRST TEST OF YOUR RETENTION SKILLS

Somewhere on the Search for Meaning by Letitia Li

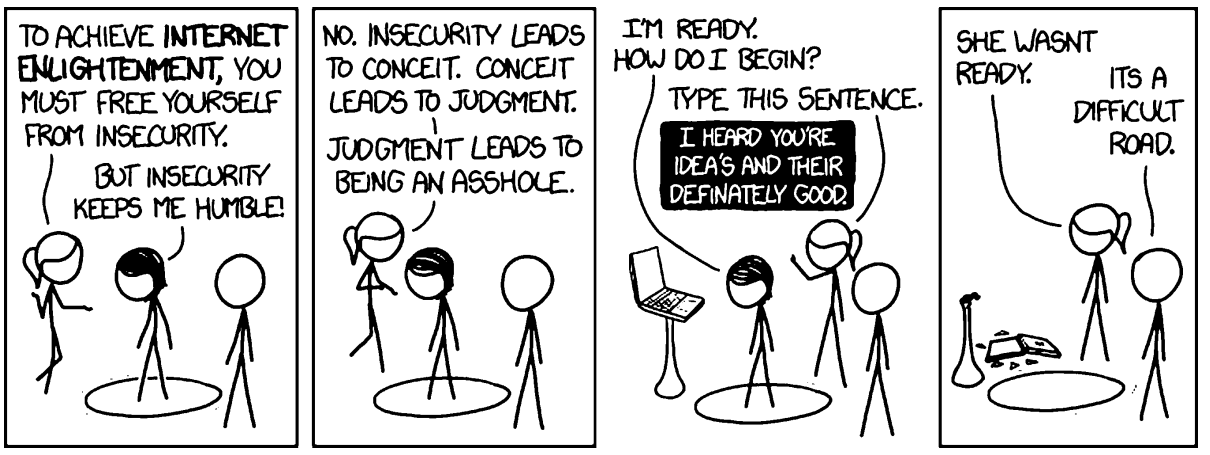
I heard you're having trouble with funding...
Oh actually I'm good. I found some other sources!
Glow in the dark mice for sale!
Anyone want a glow-in-the-dark mouse?
Has anyone seen the mass spectrometer?
$20 and I'll tell you where I took this wire from.

xkcd

A WEBCOMIC OF ROMANCE, SARCASM, MATH, AND LANGUAGE

by Randall Munroe

[1238] Enlightenment


TO ACHIEVE INTERNET ENLIGHTENMENT, YOU MUST FREE YOURSELF FROM INSECURITY.
BUT INSECURITY KEEPS ME HUMBLE!
NO. INSECURITY LEADS TO CONCEIT. CONCEIT LEADS TO JUDGMENT.
JUDGMENT LEADS TO BEING AN ASSHOLE.
I'M READY. HOW DO I BEGIN?
TYPE THIS SENTENCE.
I HEARD YOU'RE IDEA'S AND THEIR DEFINATELY GOOD.
SHE WASNT READY.
ITS A DIFFICULT ROAD.

But the rules of writing are like magic spells. If you never aquire them, the not using them says nothing.

Sudoku

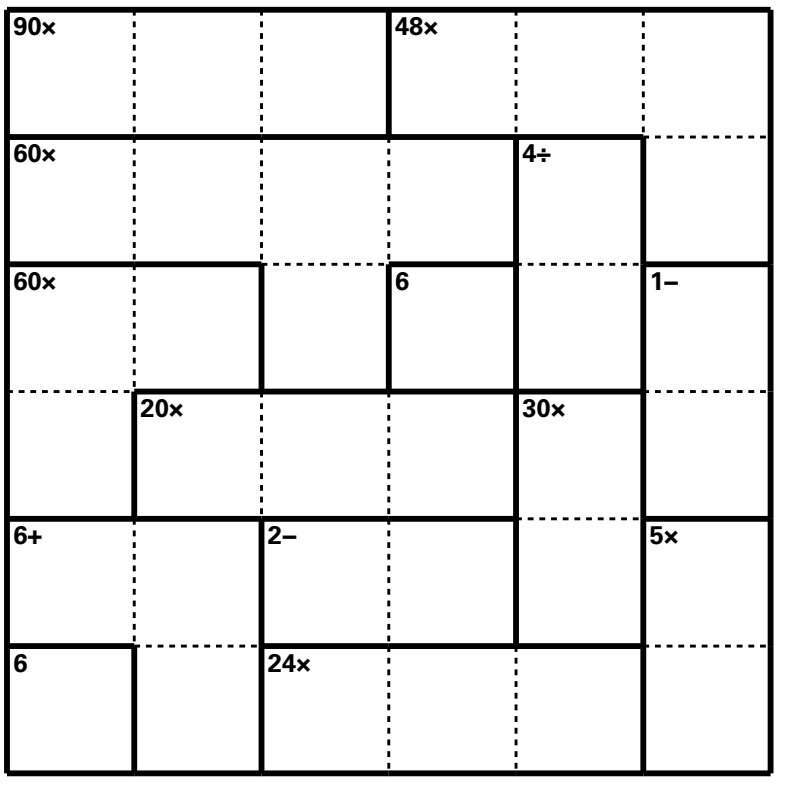
Solution, page 14

		3	7					9
		9	6		1	2	7	
		7	3			6		8
	5							6
	3			1			2	
4							3	
7		4			5	3		
	1	5	9		3	7		
3					4	1		

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Techdoku

Solution, page 14



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

FUNFUNFUNF

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How many finals do you have to take?

It is well known that different departments at MIT prefer different methods of evaluating students. For some, this is an important factor when choosing classes, or even a major. *The Tech* looked into how many finals are required in each of MIT's courses. The data in this article do not take GIRs or HASS classes into account, assume a student follows prerequisites and does not take Advanced Standing Exams, and classes can be scheduled accordingly.

Math- and science-intensive schools have the largest average number of finals in their majors. The School of Engineering has on average between nine and ten finals per major. The School of Science has seven to eight finals on average. This is in sharp contrast to the School of Humanities, Arts, and Social Sciences, which has two to three finals on average, opting instead for final projects or papers.

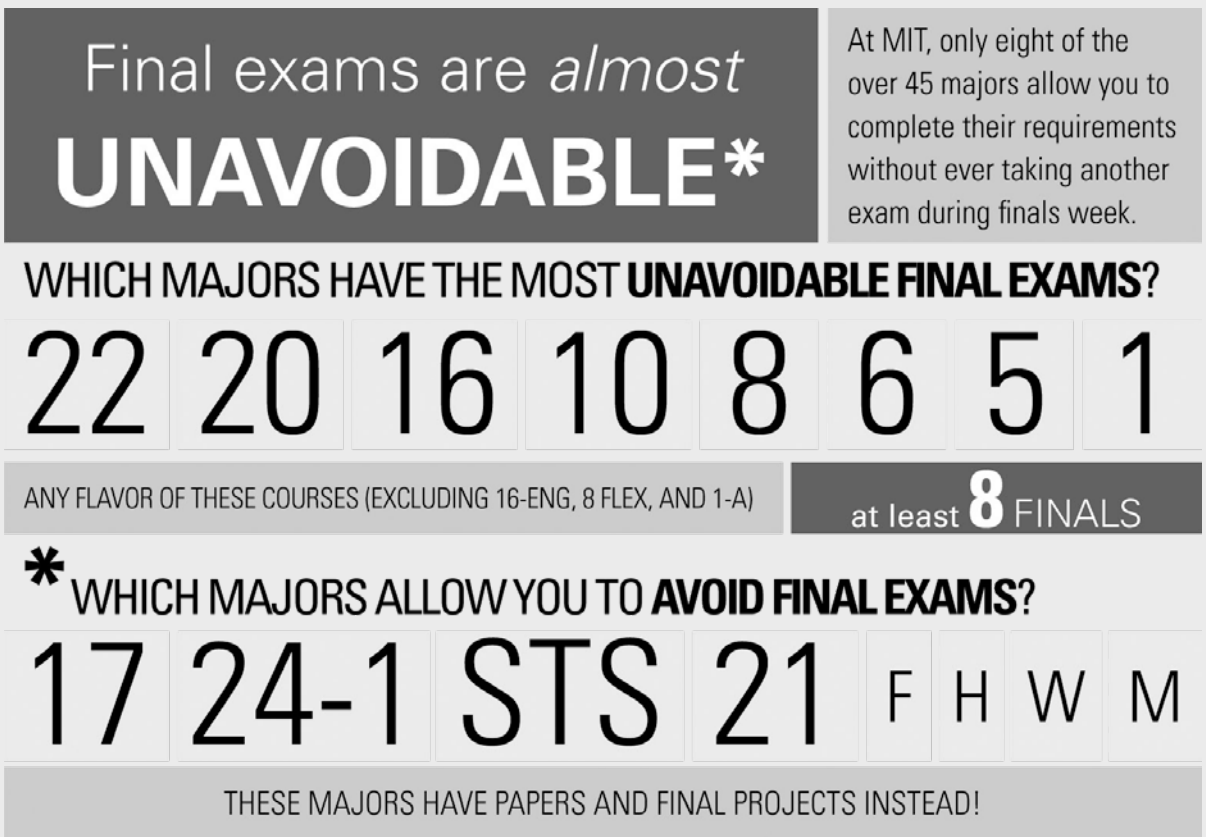
Some students, like Yuchen Fu '17, consider finals when choosing classes to take. "If there are no other options, I'll do it and won't complain. But if I have a choice between two courses that are equally weighted that I like, I'd probably go with the one without the final," said Fu, a prospective Course 18.

Another Course 18 student, Raul Fernando Boquin '17, has a different take on finals. "I pick courses that I enjoy, that get involved in my life," said Boquin. "The number of finals is really irrelevant; the only thing that matters is how much you enjoy the subject — that will make the class worth it."

Courses 17, 21W, and 24-1 — Political Science, Humanities, and Philosophy — are among the eight courses that require a minimum of zero finals to graduate in the program.

There is a tie between Courses 2 and 16 for the major with the highest minimum number of finals, six.

—Omar Ibarra


Final exams are *almost*
UNAVOIDABLE*
At MIT, only eight of the over 45 majors allow you to complete their requirements without ever taking another exam during finals week.
WHICH MAJORS HAVE THE MOST UNAVOIDABLE FINAL EXAMS?
22 20 16 10 8 6 5 1
ANY FLAVOR OF THESE COURSES (EXCLUDING 16-ENG, 8 FLEX, AND 1-A)
at least 8 FINALS
* WHICH MAJORS ALLOW YOU TO AVOID FINAL EXAMS?
17 24-1 STS 21 F H W M
THESE MAJORS HAVE PAPERS AND FINAL PROJECTS INSTEAD!

Infographic by: Anthony Yu '16

The 2013 Ig Nobel Informal Lectures

Sat., Sept. 14th
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In which the 2013 Ig Nobel Prize winners will attempt to explain what they did, and why they did it.

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Officials, Random students discuss

Discussion on 300 Mass. Ave. building work

Random, from Page 1

cording to File, "they're right outside my window every day, pretty much my alarm clock to tell me that the day started."

The structural conditions of Random Hall itself were also brought up several times during the meeting. Amster reported that the crumbling part of the exterior wall near the Sunoco gas station had been stabilized during the summer and that changes to the roofdeck were nearing completion. There is also a crack in Random's basement under monitoring, and additional monitoring will be added in other locations during the course of the construction. Amster added that while the contractors had to stay within vibration limits, residents should alert them "if the place is shaking."

MIT List Visual Arts Center

2013 Student Loan Art Program Exhibition and Lottery

Exhibition: September 3–15
Lottery Results: September 17
Art Pickup: September 18 and 19
Final Distribution: September 20

September 10, 5–7PM Graduate Student Reception

Events are free. All are welcome.
Gallery Hours: Daily 12–6pm

MIT undergraduate and graduate students may enter a lottery to borrow a framed artwork at no cost from the List Visual Arts Center's Student Loan Art Collection for the 2013-2014 academic year. For more information: **www.listart.mit.edu/student_loan_art_collection.**

listart.mit.edu Building E15, 20 Ames St., Cambridge, MA odge Office of the Dean for Graduate Education Grad friendly

SEE HOW 1s AND 0s FEEL.
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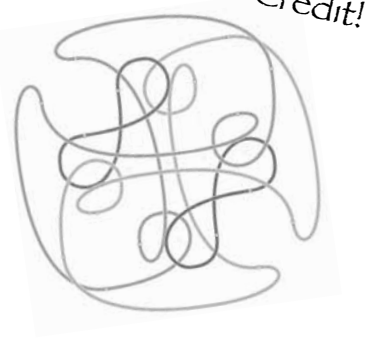
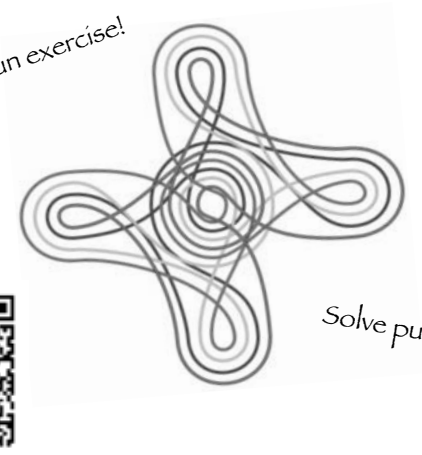


Tech Squares is MIT's answer to Modern Square Dancing.
Combining teamwork and real-time puzzle solving, we dance to music from disco to Jonathan Coulton to Lady Gaga — and we have a blast doing it. Come join us!

Get some fun exercise!



Solve puzzles with your body!

Fall class begins
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www.mit.edu/~tech-squares

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2017, from Page 1

ly. For the second year in a row, no students were accepted from the waitlist. The 75th percentile of SAT scores in the math, reading, and writing sections were 800, 790, and 790, respectively.

Of the 72.1 percent of admitted students who chose to enter MIT this fall, 1 percent were Native American, 7 percent were African American, 15 percent were Hispanic, 29 percent were Asian-American, and 39 percent were Caucasian. This distribution of ethnicity stayed fairly constant compared to freshman class statistics from previous years in the Office of the Provost's Common Data Set, as did the proportion of women in the class at 45 percent.

Two thirds of these students went to a public school, while 15 percent went to independent schools, 8 percent to religious schools, 9 percent to foreign schools, and only one percent were homeschooled. There are a total of 848 different high schools represented in the Class of 2017.

The best-represented U.S. region was the Mid-Atlantic at 21 percent, while the most-represented U.S. state was California.

—Deborah Plana

Know something important we should write about?

(*We probably don't know about it.*)

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Security, from Page 1

of undergraduate and graduate students, housemasters, MIT Police, Security and Emergency Management Office (SEMO), and Residential Life and Dining (RLD) staff.

Building on the 2008 Clay Report on Residential Security, the Residential Hall Security Review Committee released its report in March 2012. Their recommendations suggested each residence hall should have its own tailored security program due to the diversity of the student body and building structures. Some aspects of the security upgrades are indeed dorm-specific, such as guest list access.

Its general recommendations included improved security communications, updated guest list policies, employment of professional security staff, Institute-wide security training, enhancement of software and card access system, and deployment of security cameras. The new security system reflects many Committee recommendations, but differs in some areas.

Front desks are now staffed by professional attendants from security company AlliedBarton in addition to student workers, who handle non-security tasks. This differs from the report, which recommended security training for all desk staff. Nightwatch will continue to provide overnight security. More security cameras have been installed on the exterior doors. Video information, as well as the card tracking information, is stored for 14 days by the SEMO and may be used by the MIT Police for criminal investigation with a written request to the SEMO. The report also recommended all surveillance cameras on campus meet the SEMO's existing standard.

According to the Residential Life and Dining website about the security changes, all other residence halls should expect similar security upgrades in either the 2014–2015 or 2015–2016 academic years.

Residents in the five undergraduate dorms that underwent the dorm security pilot system will be invited to comment through a mid-term survey this November. They can also send comments or questions to *dormsecurity@mit.edu*.

—Shirley Chen

Solution to Techdoku

from page 7

5	6	3	1	2	4
1	2	5	3	4	6
4	5	2	6	1	3
3	4	1	5	6	2
2	3	6	4	5	1
6	1	4	2	3	5

Solution to Sudoku

from page 7

2	6	3	7	5	8	4	1	9
5	8	9	6	4	1	2	7	3
1	4	7	3	9	2	6	5	8
9	5	1	2	3	7	8	4	6
6	3	8	4	1	9	5	2	7
4	7	2	5	8	6	9	3	1
7	9	4	1	6	5	3	8	2
8	1	5	9	2	3	7	6	4
3	2	6	8	7	4	1	9	5

Solution to Crossword

from page 8

H	E	M	I	N	■	C	H	E	E	Z	W	H	I	Z
A	M	A	N	A	■	A	I	R	T	A	H	I	T	I
D	O	Y	E	N	■	S	N	E	E	R	E	D	A	T
S	T	A	R	K	I	S	T	■	■	K	E	E	L	S
T	E	S	T	I	F	I	E	D	T	O	■	■	■	■
■	■	■	■	■	P	E	E	R	R	E	V	I	E	W	S
B	I	G	T	O	E	■	S	U	E	■	M	A	R	Y
O	N	A	R	O	L	L	■	M	O	J	A	V	E	S
A	R	G	O	■	Y	O	S	■	F	O	M	E	N	T
Z	E	S	T	F	O	R	L	I	F	E	■	■	■	■
■	■	■	■	■	J	U	D	Y	C	O	L	L	I	N	S
H	A	S	T	O	■	■	W	I	N	C	E	S	A	T
U	S	H	E	R	E	D	I	N	■	O	S	S	I	E
S	W	I	N	D	L	I	N	G	■	E	T	H	A	N
H	E	A	T	S	I	N	K	S	■	N	E	E	D	Y

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The Tech
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EVENTS SEPT. 10 – SEPT. 16

TUESDAY

(10:00 a.m. – 4:00 p.m.) Employer Resume Critiques with 30+ companies, hosted by the Global Education and Career Development Center (sign-ups on CareerBridge) — 12-172

WEDNESDAY

(8:00 p.m. – 11:00 p.m.) Israeli Dancing with kosher snacks provided, hosted by the MISTI MIT-Israel Program, Folk Dance Club, and MIT Hillel — Sala de Puerto Rico

(4:00 p.m. – 5:30 p.m.) Starr Forum — Syria: A Just War? with speakers Barry Posen, Jeanne Guillemin, Augustus Richard Norton, and John Tirman — E15-070 (Bartos theater)

THURSDAY

(12:00 p.m. – 1:00 p.m.) MISTI Open House, sponsored by the Center for International Studies and MISTI — E40-496

(6:30 p.m. – 7:30 p.m.) MIT Undergraduate Biochemistry Association General Body Meeting, with free dinner — W20-201

FRIDAY

(7:00 p.m. – 9:00 p.m.) LSC shows Fast & Furious 6, tickets for $4 in Lobby 16 — 26-100

(10:00 a.m. – 2:00 p.m.) McKinsey Business Analyst Coffee Chats, sponsored by Sloan Business Club (sign-up necessary) — Area Four

SATURDAY

(1:00 p.m. – 4:00 p.m.) The Ig Informal Lectures at MIT by 2013 Ig Nobel Prize winners, sponsored by The MIT Press Bookstore and The Annals of Improbable Research — 26-100

SUNDAY

(6:45 p.m. – 10:00 p.m.) Film on the Green @ MIT - Les Chansons d'Amour, sponsored by the Center for International Studies, FL&L, and French Consulate of Boston — Kresge Oval

MONDAY

(5:30 p.m. – 7:00 p.m.) Wall Street and the Housing Bubble with speaker Wei Xiong (Princeton), sponsored by the Applied Theory Workshop (joint MIT/Harvard) — Harvard Littauer M15

Send your campus events to *events@tech.mit.edu*.

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Artwork by Anastasia Azure in collaboration with Dr. Larry Pratt, photograph courtesy of the artist

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STRANGER THAN FICTION

Stand up against back pain

An elevated desk prevents many problems of working at a computer too long

By Deena Wang
ASSOCIATE CAMPUS LIFE EDITOR

It's not easy being MIT students. In addition to carpal tunnel, eye strain, and weight gain from too much free food, we must deal with back pain from sitting hunched over a desk for long hours. Fortunately, there's a solution for that last problem: a standing desk.

I suffered the pangs of poor posture last semester, when I was chained to my desk for my 6.005 project. I had to remove my pillow and sleep on the hard Institute mattress directly to relieve the soreness of 2 a.m. impromptu hackathons.

However, I discovered the difference that a standing desk makes over this summer, when I worked at a medical software and robotics company which appropriately provided standing desks to all of its employees, even lowly interns. I found I could code for hours without regretting it later. Without the burden of soreness, I held my head high.

Standing provides health benefits beyond back pain relief. According to a 2000 paper published in the journal Medicine & Science in Sports & Exercise, standing burns 1.2 to 2.0 times as many calories as sitting. For example, by the Revised Harris-Benedict Equation, a twenty-year-old six-foot-tall woman weighing 150 pounds would burn about 65 calories sitting and 78–130 calories standing. It's like multitasking: working and burning calories at the same time.

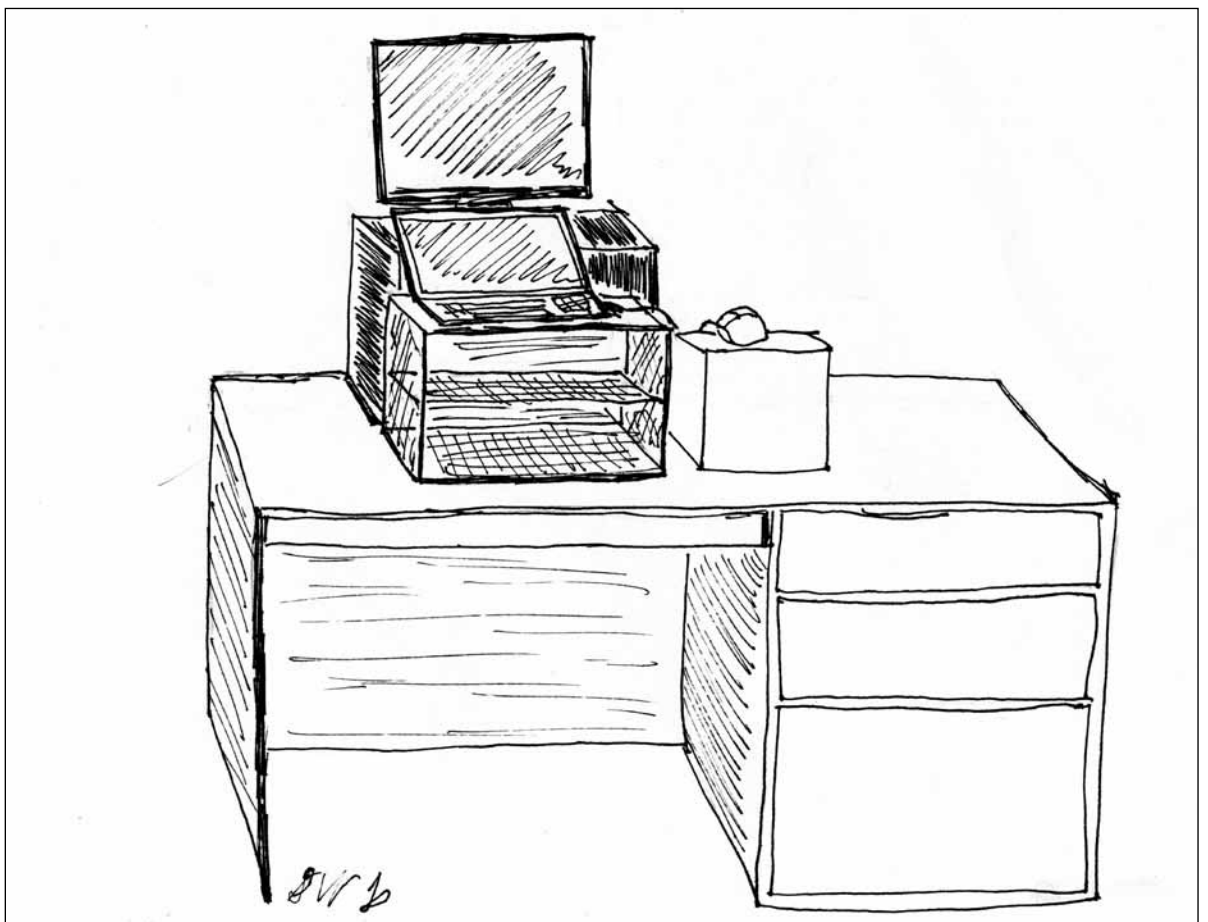


ILLUSTRATION BY DEENA WANG

Besides the advantages of standing, there is evidence that prolonged sitting may be actively detrimental to your health. According to a 2010 article published in *Medicine & Science in Sports & Exercise*, the amount of time sitting was correlated with an increase in death due to cardiovascular disease, despite routine exercise. A 2012 study on 222,497 Australian adults found that sitting was associated with increased mortality, even accounting for age, body mass index, and physical activity levels. It is speculated that the lack of muscle movement causes metabolism to slow down, raising levels of cholesterol, blood sugar, and triglycerides.

Using a standing desk has some historical basis for us engineers. Thomas Jefferson used a standing desk to draw architectural blueprints, and distinguished persons such as Leonardo da Vinci, Otto von Bismark, and Winston Churchill, all stood up to do their work.

A simple standing desk can cost $100–$500 online, with adjustable models costing up to $2000. Here are several budget-friendly options for tricking up a standing desk in your dorm room.

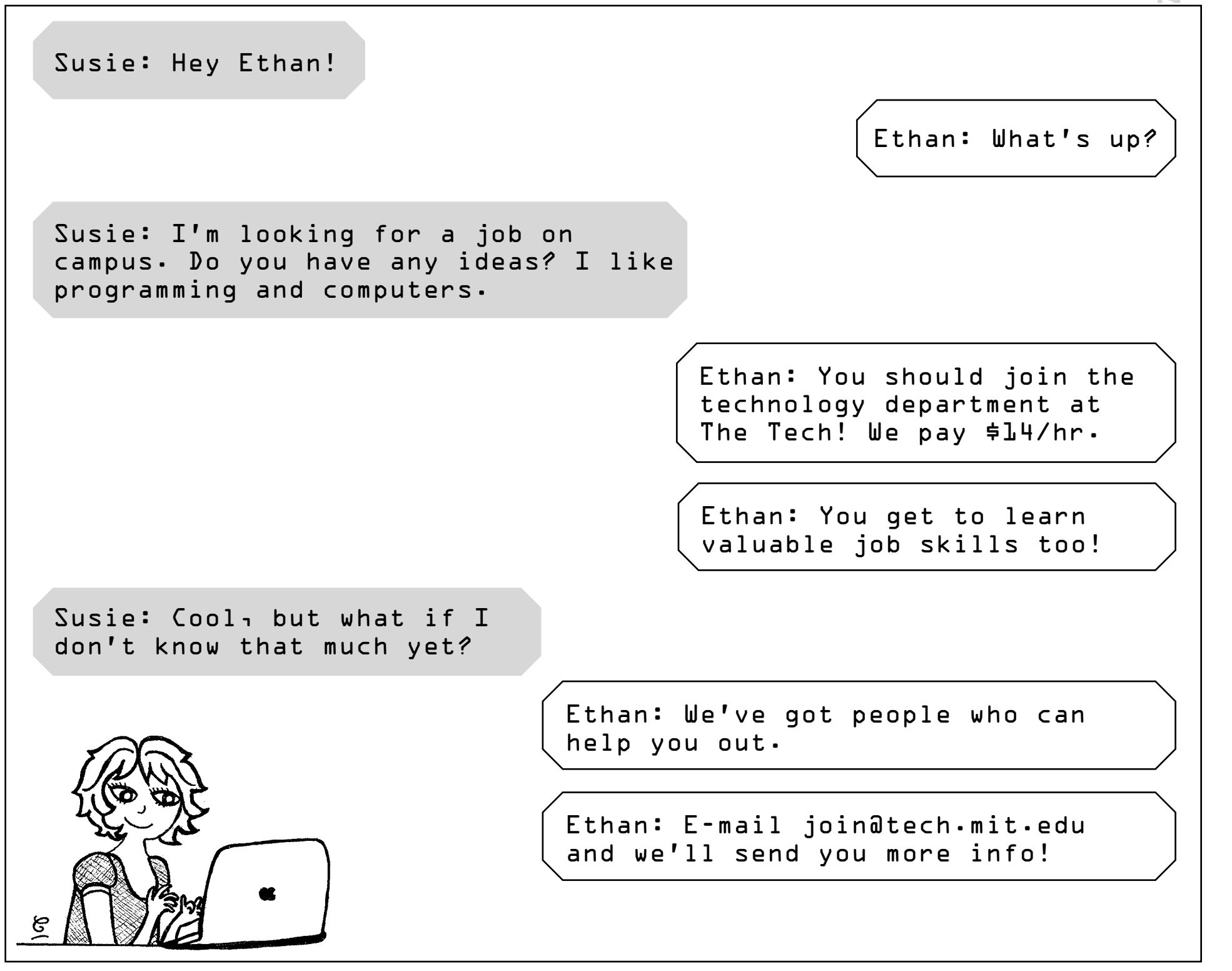
1. Adjust your bookshelf to standing desk height. This option only works for laptops, and it can be difficult to balance a lamp on the narrow surface. If you are the perfect height, it might also be possible to use an Institute-standard dresser as a desk.

2. Stack boxes on your desk. I like to use letter trays in order to reclaim some of the surface area taken up by the boxes. If you can't find boxes of the appropriate height, you can stack textbooks for finer adjustment. Unfortunately, this setup takes up valuable desk room that you might want to reserve for vases of flowers or ornamental doilies.

3. Build your own standing desk. Ikea provides cheap, modular parts if you aren't interested in cutting the wood yourself, and there are plenty of instructions online for a desk that should cost less than thirty dollars.

The standing desk in my room uses option two, mainly because I don't want to move my institute desk. I've found that the Institute chair also provides a convenient platform to rest your knees on if your feet hurt from standing too much.

With these tricks, no more should we have to suffer under the tyranny of trapezius tension. It's time to take a stand against back pain!


Susie: Hey Ethan!
Ethan: What's up?
Susie: I'm looking for a job on campus. Do you have any ideas? I like programming and computers.
Ethan: You should join the technology department at The Tech! We pay $14/hr.
Ethan: You get to learn valuable job skills too!
Susie: Cool, but what if I don't know that much yet?
Ethan: We've got people who can help you out.
Ethan: E-mail join@tech.mit.edu and we'll send you more info!

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